We claim:

1. **(currently amended):** A quality of service (QoS) shaping and provisioning method for a switch having a plurality of ports, the method comprising the steps of:

5   receiving a packet having a first priority value on a first port <u>of the switch</u>;

determining a second priority value <u>and a third priority value</u> for the

packet based on one or more flow properties ~~including at~~

10 ~~least one value from a packet field that is not dedicated to defining QoS~~; ~~and~~

processing the packet <u>on the switch</u> based on the second

priority value<u>; and</u>

15 <u>transmitting the packet on a second port of the switch with the third priority value.</u>

2. **(original):** The method of claim 1 wherein the first priority value includes information from at least one

20 of a 802.1Q tag field in Layer 2, a Type of Service (ToS) field in Layer 3 and a Diffserv in Layer 3.

3. **(original):** The method of claim 1 wherein the first priority

25 value includes an inbound priority value, and the second priority value is determined based on the inbound priority value.

4. **(original):** The method of claim 1 wherein the second priority

30 value includes an internal priority value, and the internal priority value is used to indicate a processing priority of

the packet while the packet is being processed in the switch.

     5.   **(original)**:   The method of claim 1 wherein the second priority
value is determined based on one or more flow properties including at least one of Layer 2 information, Layer 3 information and Layer 4 information.

     6.   **(original)**:   The method of claim 1 wherein the first priority value is mapped by a QoS shaping map into the second priority value.

     7.   **(original)**:   The method of claim 6 wherein mapping information of the QoS shaping map can be updated during operation of the switch.

     8.   **(currently amended)**:   A quality of service (QoS) shaping and provisioning method for <u>a</u> switch having a plurality of ports, the method comprising the steps of:
          receiving a packet having a first priority value on a first <u>port of the switch</u>; <u>and</u>
          determining a second priority value <u>and a third</u>
          <u>priority value</u> for the
packet based on one or more flow properties ~~including at least one value from a packet field that is not dedicated to defining QoS~~<u>, wherein the second priority value is applied in processing the packet on the switch and the third priority value is applied in processing the packet on a device to which the switch transmits the packet</u>~~; and~~
        ~~applying the second priority value to the packet prior to transmission from the switch~~.

9. **(original):** The method of claim 8 wherein the first priority value includes an inbound priority value, and the second priority value is determined based on the inbound priority value.

10. **(currently amended):** The method of claim 8 wherein the ~~second~~ third priority value includes an outbound priority value, and the outbound priority value is applied to the packet before the packet is transmitted from the switch.

11. **(currently amended):** The method of claim 8 wherein the ~~second~~ third priority value is determined based on one or more flow properties including at least one of Layer 2 information, Layer 3 information and Layer 4 information.

12. **(currently amended):** The method of claim 8 wherein the first priority value is mapped by a QoS shaping map into the ~~second~~ third priority value.

13. **(original):** The method of claim 12 wherein mapping information of the QoS shaping map can be updated during operation of the switch.

14. **(currently amended):** A quality of service (QoS) shaping and provisioning method for a switch having a plurality of ports, the method comprising the steps of:

receiving a packet having a first priority value on a first port;

determining a second priority value for the

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packet based on one or more flow properties;

processing the packet <u>on the switch</u> based on the second

priority value;

5   determining a third priority value for the packet based on the one or more flow properties; and

applying the third priority value to the packet prior to transmission from the switch.

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10   15. **(original):**   The method of claim 14 wherein the first priority value includes an inbound priority value, and at least one of the second priority value and the third priority value is determined based on the inbound priority value.

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16. **(original):**   The method of claim 14 wherein the second

priority value includes an internal priority value, and the internal priority value is used to indicate a processing

20   priority of the packet while the packet is being processed in the switch.

17. **(original):**   The method of claim 14 wherein the third priority

25   value includes an outbound priority value, and the outbound priority value is applied to the packet before the packet is transmitted from the switch.

18. **(original):**   The method of claim 14 wherein the

30   second priority value is determined based on one or more flow properties including at least one value from a packet field that is not dedicated to defining QoS.

19. **(original):** The method of claim 14 wherein the third priority value is determined based on one or more flow properties including at least one value from a packet field that is not dedicated to defining QoS.

20. **(original):** The method of claim 14 wherein the second priority value is determined based on one or more flow properties including at least one of Layer 2 information, Layer 3 information and Layer 4 information.

21. **(original):** The method of claim 14 wherein the third priority value is determined based on one or more flow properties including at least one of Layer 2 information, Layer 3 information and Layer 4 information.

22. **(original):** The method of claim 14 wherein the first priority value is mapped by a first QoS shaping map into the second priority value, and the first priority value is mapped by a second QoS shaping map into the third priority value, and wherein mapping information for the first QoS shaping map and mapping information for the second QoS shaping map can be updated during operation of the switch.

23. **(currently amended):** A switch having one or more switching modules that are capable of QoS shaping and provisioning, each switching module comprising:
one or more ports for receiving a plurality of

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inbound packets and for transmitting a plurality of outbound packets;

an access controller coupled to the input ports
for receiving the inbound packets, each inbound packet
5   having an inbound priority value and a plurality of flow properties; and

a switching controller coupled to the access
controller for receiving the inbound packets from the
access controller, for determining ~~one or more~~ a plurality
10 of packet priority values based on the plurality of flow
properties, and for providing the outbound packets to the
ports to be transmitted.

24. **(original):** The switch of claim 23 wherein the
15 packet priority values include an internal priority value,
and the internal priority value is used to indicate a
processing priority of the inbound packets while the
inbound packets are being processed in the switch.

20 25. **(original):** The switch of claim 23 wherein the
packet priority values include an outbound priority value,
and the outbound priority value is applied to the inbound
packets before the inbound packets are transmitted from the
switch as an outbound packet.

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26. **(original):** The switch of claim 23 wherein the
packet priority values are determined based on the inbound
priority value.

30 27. **(original):** The switch of claim 23 wherein the
packet priority values are determined based on one or more

flow properties including at least one value from a packet field that is not dedicated to defining QoS.

28. **(original):** The apparatus of claim 23, wherein the packet priority values are determined based on one or more flow properties including at least one of Layer 2 information, Layer 3 information and Layer 4 information.

29. **(original):** The switch of claim 23 wherein the switching controller includes a priority determination map for mapping the inbound priority value into one or more packet priority values.

30. **(original):** The switch of claim 29 wherein mapping information of the priority determination map can be updated during operation of the switch.

31. **(new):** The method of claim 1, wherein the first priority value includes an inbound priority value, and the third priority value is determined based on the inbound priority value.

32. **(new):** The method of claim 1 wherein the third priority value includes an outbound priority value, and the outbound priority value is used to indicate a processing priority of the packet after the packet is transmitted from the switch.

33. **(new):** The method of claim 1 wherein the third priority value is determined based on one or more flow properties including at least one of Layer 2 information, Layer 3 information and Layer 4 information.

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34. **(new):** The method of claim 8 wherein the second priority value includes an internal priority value, and the internal priority value is used to indicate a processing priority of the packet while the packet is being processed in the switch.

35. **(new):** The method of claim 8 wherein the second priority value is determined based on one or more flow properties including at least one of Layer 2 information, Layer 3 information and Layer 4 information.

36. **(new):** A quality of service (QoS) shaping and provisioning method for a switch having a plurality of ports, the method comprising the steps of:

receiving a packet having a first priority value on a first port of the switch;

determining a second priority value for the packet based on one or more flow properties; and

processing the packet based on the second priority value,

wherein the determining step includes a selected one of the following substeps:

passing the first priority value;

forcing the first priority value to a lower priority value; and

inverting the first priority value.

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